

Basic Research in Cardiology

Archiv für Kreislaufforschung

Official Journal of the German Association of Cardiovascular Research

Initiated by Bruno Kisch – Founded by Eberhard Koch –

Continued by Franz Loogen and Konrad Spang

Editors: R. Jacob, Tübingen; W. Schaper, Bad Nauheim

Contents of Volume 79 (1984)

Editorial Board

H. Antoni, Freiburg i. Brsg.
E. Bassenge, Freiburg i. Brsg.
C. M. Bloor, San Diego
H. J. Bretschneider, Göttingen
D. L. Brutsaert, Antwerpen
N. S. Dhalla, Winnipeg
K. A. P. Edman, Lund
P. England, Bristol
E. Gerlach, München
J. P. Gilmore, Omaha
W. Hasselbach, Heidelberg
P. Y. Hatt, Limeil-Brévannes
P. Heintzen, Kiel
U. Helmchen, Göttingen
W. Hort, Düsseldorf
P. Hugenholtz, Rotterdam
K. J. Kako, Ottawa
H. Kammermeier, Aachen
Th. Kenner, Graz
F. Kölbels, Prague

B. Lewartowski, Warszawa
P. Lichtlen, Hannover
F. Loogen, Düsseldorf
A. Maseri, London
F. Z. Meerson, Moscow
M. Nagano, Tokyo
M. I. M. Noble, Midhurst
S. Onishi, Osaka
St. Pasyk, Ann Arbor
G. Pfeleiderer, Stuttgart
M. Reiter, München
G. Rona, Montreal
W. Rutishauser, Genf
T. H. Schiebeler, Würzburg
M. Siess, Tübingen
V. N. Smirnov, Moscow
L. Szekeres, Szeged
R. Thauer, Gießen/Bad Nauheim
A. Ziegelhöffer, Bratislava

CONTENTS OF VOLUME 79 (1984)

Original Contributions

Amenta, F., A. Cantagalli, C. Cavallotti, M. C. Mione, and G. Sancesario (Roma/Italia), (³ H)-spiroperidol binding sites in the rabbit splenic artery	80
Amitzur, G., M. Manoach, and Marta Weinstock (Jerusalem, Tel-Aviv/Israel), The influence of cardiac cholinergic activation on the induction and maintenance of ventricular fibrillation . . .	690
Armiger, L. C., R. N. Seelye, M. A. Morrison, and D. G. Holliss (Auckland/New Zealand), Comparative biochemistry and fine structure of atrial and ventricular myocardium during autolysis in vitro	218
Arndt, J. O., A. Höck, and K. Inoue (Jülich/F.R.G.), Dihydroergotamine decreases the blood content in the skeletal musculature but etilefrine hydrochloride in the splanchnic region in man	244
Atlee, J. L., III, Anne M. Dayer, and J. C. Houge (Wisconsin/U.S.A.), Chronic recording from the His bundle of the awake dog	627
Aziz, O., and E. Sommer (Marburg/F.R.G.), Volume control during periodic changes of blood volume in the alert rat	572
Bacher, S., O. Kraupp, A. Beck, R. Seitelberger, and G. Raberger (Vienna/Austria), Altered blood pressure response to propylidazine after repeated oral administration in conscious normotensive dogs: role of the renin-angiotensin system	588
Baller, D., H. G. Wolpers, A. Hoeft, H. Korb, A. Rösick, G. Hellige, and H. J. Bretschneider (Göttingen/F.R.G.), Increase of myocardial oxygen consumption due to active diastolic wall tension	176
Beck, A., O. Kraupp, S. Bacher, R. Seitelberger, and G. Raberger (Vienna/Austria), The influence of repeated administration of prazosin on its hypotensive effect and on renin release in conscious dogs. A comparison with urapidil	579
Bischoff, K.-O., P. Bucher, and W. Hager (Essen/F.R.G.), Different determination of sinoatrial conduction time (SACT) in man	639
Bogaard, J. M., S. J. Smith, A. Versprille, M. E. Wise, and F. Hagemeijer (Rotterdam/The Netherlands), Physiological interpretation of the skewness of indicator-dilution curves; theoretical considerations and a practical application	479
Bonandi, L., O. M. Hess, M. Turina, and H. P. Krayenbuehl (Zürich/Switzerland), Late systolic stress-diameter relation in patients with aortic valve disease before and after valve replacement	413
Brandt, R., J. Nowak, and T. Sonnenfeld (Stockholm/Sweden), Prostaglandin formation from exogenous precursor in homogenates of human cardiac tissue	135
Brazzamano, S., J. M. Fedor, J. C. Rembert, and J. C. Greenfield, Jr. (Durham, North Carolina/U.S.A.), Increase in myocardial collateral blood flow during repeated brief episodes of ischemia in the awake dog	448
Camici, P., F. Ursini, F. Gializzo, L. Bellitto, G. Pelosi, M. Marzilli, A. L'Abbate, and R. Barsacchi (Pisa and Padua/Italy), Different respiratory activities of mitochondria isolated from the subendocardium and subepicardium of the canine heart	454
Cohen, M. V., M. A. Greenberg, R. Grose, and T. Yipintoi (Bronx, New York/U.S.A.), Cardiac tamponade in dogs with normal coronary arteries. II. Myocardial flow and metabolism with moderate and severe hemodynamic impairment	542
Dutta, P., A. W. Jones, and S. J. Mustafa (Missouri-Columbia, MO and South Alabama, Mobile, AL/U.S.A.), Uptake and efflux of calcium by canine coronary arteries and the action of adenosine	519
Dzurba, A., P. K. Ganguly, A. Guerin, and N. S. Dhalla (Winnipeg, Canada), Alterations in the heart sarcolemmal Ca ²⁺ transport activity by some β -adrenergic antagonists	620
Fiedler, V. B. (Wuppertal/F.R.G.), Thrombolytic effects of intracoronary streptokinase on canine coronary artery thrombosis	17
Gilmore, J. P., and M. N. Nemeh (Omaha, Nebraska/U.S.A.), Does head-down tilt simulate zero gravity?	262

Gorman, A. J., and I. H. Zucker (Omaha, Nebraska/U.S.A.), Renal nerve and blood pressure responses to stimulation of cardiac receptors in dogs and cats by bradykinin	142
Gottwik, M. G., S. Puschmann, B. Wüsten, C. Nienaber, K.-D. Müller, M. Hofmann, and W. Schaper (Bad Nauheim/F.R.G.), Myocardial protection by collateral vessels during experimental coronary ligation: A prospective study in canine two-infarction model	337
Grose, R., M. A. Greenberg, T. Yipintsoi, and M. V. Cohen (Bronx, New York/U.S.A.), Cardiac tamponade in dogs with normal coronary arteries. I. Effect of changing intravascular volume on hemodynamics and myocardial blood flow	531
Haass, M., G. Sponer, and U. Abshagen (Mannheim/F.R.G.), Arrhythmogenic dose of acetyl-strophanthidin unchanged by beta-sympathomimetics in conscious dogs	679
Hepp, A., T. Rudolph, and K. Kochsieck (Tübingen/F.R.G.), Is the rat a suitable model for studying alcoholic cardiomyopathy? - Hemodynamic studies at various stages of chronic alcohol ingestion	230
Hoefl, A., H. Korb, D. Baller, H. G. Wolpers, G. Hellige, and H. J. Bretschneider (Göttingen/F.R.G.), Quantification of ischemic stress during repeated coronary artery occlusion in the dog - A method for validation of therapeutic effects. I. Estimation of O ₂ -debt and O ₂ -repayment	27
Horacek, Th., M. Neumann, Sabine von Mutius, Monika Budden, and W. Meesmann (Essen/F.R.G.), Nonhomogeneous electrophysiological changes and the bimodal distribution of early ventricular arrhythmias during acute coronary artery occlusion.	649
Hülsmann, W. C., H. Stam, and H. Jansen (Rotterdam/The Netherlands), Localization and function of myocardial lipolysis	268
Humphrey, S. M., and J. B. Gavin (Auckland/New Zealand), The effect of coronary pressure on contracture and vascular perfusion in the hypoxic isolated rat heart	350
Hütter, J. F., H. M. Piper, and P. G. Spieckermann (Göttingen/F.R.G.), Myocardial fatty acid oxidation: Evidence for an albumin-receptor-mediated membrane transfer of fatty acids	274
Kainulainen, H., E. Ahomäki, and V. Vikho (Jyväskylä/Finland), Selected enzyme activities in mouse cardiac muscle during training and terminated training	110
Kentera, D., D. Sušić, and Mirjana Zdravković (Belgrade/Yugoslavia), Separate and combined use of Verapamil, Aspirin and Captopril in experimental chronic pulmonary hypertension . .	375
Khatler, J. C., and R. J. Hoeschen (Winnipeg, Manitoba/Canada), Reduced number of digitalis receptor sites in the hypertrophied pig myocardium	396
Klein, H. H., M. Schuboth, K. Nebendahl, and H. Kreuzer (Göttingen/F.R.G.), Temporal and spatial development of infarcts in porcine hearts	440
-, U. Spaar, and H. Kreuzer (Göttingen/F.R.G.), The effect of chronic ethanol consumption on enzyme activities of the energy-supplying metabolism and the alcohol-aldehyde oxidizing system in rat hearts	238
Korb, H., A. Hoefl, D. Baller, H. G. Wolpers, G. Hellige, and H. J. Bretschneider (Göttingen/F.R.G.), II. Reproducibility of the release and uptake of electrolytes and substrates.	38
Krieger, W. J. G., H. F. ter Welle, J. W. T. Fiolet, and M. J. Janse (Amsterdam/The Netherlands), Tissue osmolality, metabolic response, and reperfusion in myocardial ischemia	562
Lange, R., J. S. Ingwall, S. L. Hale, K. J. Alker, and R. A. Kloner (Boston, MA/U.S.A.), Effects of recurrent ischemia on myocardial high energy phosphate content in canine hearts . .	469
Leiris, J. de, D. P. Harding, and S. Pestre (Grenoble/France), The isolated perfused rat heart: A model for studying myocardial hypoxia or ischaemia	313
Liedtke, A. J., C. Q. Mahar, K. Ytrehus, and O. D. Mjøs (Madison, Wisconsin/U.S.A., and Tromsø/Norway), Estimates of free-radical production in rat and swine hearts: method and application of measuring malondialdehyde levels in fresh and frozen myocardium	513
Martorana, P. A., B. Kettenbach, H. Göbel, and R.-E. Nitz (Frankfurt/F.R.G.), Comparison of the effects of molsidomine, nitroglycerin and isosorbide dinitrate on experimentally induced coronary artery thrombosis in the dog	503
Maruyama, Y., K. Ashikawa, S. Isoyama, S. Satoh, H. Suzuki, J. Watanabe, Y. Shimizu, E. Ino-Oka, and T. Takishima (Sendai/Japan), Pressure-length loop in the ischemic segment during left circumflex coronary artery stenosis and its modification by afterload reducing in excised perfused canine hearts	155
Molhoek, G. P., K. H. Wesseling, J. J. M. Settels, E. van Vollenhoven, H. W. H. Weeda, B. de Wit, and A. C. Arntzenius (Leiden and Utrecht/The Netherlands), Evaluation of the Penaz servo-plethysmo-manometer for the continuous, non-invasive measurement of finger blood pressure	598
Morgan, H. E., J. R. Neely, and Y. Kira (Hershey, Pennsylvania/U.S.A.), Factors determining the utilization of glucose in isolated rat hearts	292

Nayler, W., G., M. Purchase, and G. J. Dusting (Heidelberg, Victoria/Australia), Effect of prostacyclin infusion during low-flow ischaemia in the isolated perfused rat heart	125
Nematzadeh, D., J. C. Rose, Th. Schryver, H. K. Huang, and P. A. Kot (Washington, D.C./U.S.A.), Analysis of methodology for measurement of intramyocardial pressure	86
Nuutinen, E. M. (Oulu/Finland), Subcellular origin of the surface fluorescence of reduced nicotinamide nucleotides in the isolated perfused rat heart	49
Opie, L. H. (Cape Town/South Africa), Adequacy of oxygenation of isolated perfused rat heart	300
Pape, L. A., J. M. Rippe, W. S. Walker, B. H. Weiner, I. S. Ockene, J. A. Paraskos, and J. S. Alpert, technical assistance P. Kotilainen and M. Matthews (Worcester, MA/U.S.A.), Effects of the cessation of training on left ventricular function in the racing greyhound - Serial studies in a model of cardiac hypertrophy	98
Paulson, D. J., M. J. Schmidt, J. Romens, and A. L. Shug (Madison, WI/U.S.A.), Metabolic and physiological differences between zero-flow and low-flow myocardial ischemia: effects of L-acetylcarnitine	551
Perktold, K., K. Gruber, T. Kenner, and H. Florian (Graz/Austria), Calculation of pulsatile flow and particle paths in an aneurysm-model	253
Piper, M. H., O. Sezer, P. Schwartz, J. F. Hütter, C. Schweickhardt, and P. G. Spieckermann (Göttingen/F.R.G.), Acyl-carnitine effect on isolated cardiac mitochondria and erythrocytes	186
Pop, T., N. Treese, T. Meinertz, and W. Kasper (Mainz/F.R.G.), Vulnerability of the right ventricle to cathodal, anodal, and bipolar stimulation at double diastolic threshold strength	75
Rakusan, K., P. W. Hrdina, Z. Turek, E. G. Lakatta, H. A. Spurgeon, and G. D. Wolford (Ottawa, Ont./Canada, Nijmegen/The Netherlands, and Baltimore, MD/U.S.A.), Cell size and capillary supply of the hypertensive rat heart: quantitative study	389
Regitz, V., D. J. Paulson, R. J. Hodach, S. E. Little, W. Schaper, and A. L. Shug (Wisconsin, Madison, U.S.A./Bad Nauheim, F.R.G.), Mitochondrial damage during myocardial ischemia	207
Rösen, E., A. Marsen, and W. Klaus (Cologne/F.R.G.), Local myocardial perfusion and epicardial NADH-fluorescence after coronary artery ligation in the isolated guinea pig heart	59
Rösen, P., M. Adrian, J. Feuerstein, and H. Reinauer (Düsseldorf/F.R.G.), Glycolysis and glucose oxidation in the rat heart under non-recirculating perfusion conditions	307
Satoh, Sh., Y. Shimizu, Y. Maruyama, K. Ashikawa, Sh. Isoyama, H. Suzuki, E. Ino-Oka, and T. Takishima (Sendai/Japan), The relationship between myocardial oxygen consumption and total work obtained by a new left ventricular model	363
Saxon, M. E., A. K. Filippov, and U. I. Porotikov (Pushchino/U.S.S.R.), The possible role of phospholipase A ₂ in cardiac membrane destabilization under calcium overload conditions	668
Schaible, Th. F., and J. Scheuer (Bronx, New York/U.S.A.), Comparison of heart function in male and female rats	402
Schulte, W., H. Neus, M. Thönes, and A. W. von Eiff (Bonn/F.R.G.), Basal blood pressure variability and reactivity of blood pressure to emotional stress in essential hypertension	8
Seitelberger, R., W. Schütz, and G. Raberger (Vienna/Austria), Effects of dihydroergotamine (DHE) on blood flow and metabolism in the underperfused myocardium in anesthetized dogs	461
Senges, J., H. Seller, J. Brachmann, W. Braun, E. Mayer, I. Rizos, and W. Kübler (Heidelberg/F.R.G.), Role of some components of ischemia in the genesis of spontaneous ventricular arrhythmias	68
Sjöquist, P.-O., G. Duker, and O. Almgren (Mölnådal/Sweden), Distribution of the collateral blood flow at the lateral border of the ischemic myocardium after acute coronary occlusion in the pig and the dog	164
Sládek, T., J. Filkuka, S. Doležel, J. Vašku, B. Hartmannová, and J. Trávníčková (Brno/Czechoslovakia), The border zone of the early myocardial infarction in dogs; its characteristics and viability	344
Sylvestre-Gevais, L., A. Nadeau, G. Tancrède, Minh-Hau Nuyen, and S. Rousseau-Migneron (Quebec, Quebec/Canada), Decrease in ventricular beta-adrenergic receptors in trained diabetic rats	432
Taetgmeyer, H. (Houston, Texas/U.S.A.), Six blind men explore an elephant: aspects of fuel metabolism and the control of tricarboxylic acid cycle activity in heart muscle	322
Tai Fu, L., N. Kato, and N. Takahashi (Tokyo/Japan), Hypopotassemia-induced U wave in electrocardiogram (an experimental study for possible mechanism)	494
Thomas, D. P., St. J. Phillips, and A. A. Bove (Rochester, MN/U.S.A.), Myocardial morphology and blood flow distribution in chronic volume-overload hypertrophy in dogs	379
Thüroff, J. W., W. Hort, and H. Lichti (Düsseldorf/F.R.G.), Diameter of coronary arteries in 36 species of mammalian from mouse to giraffe	199

Unterberg, R. H., R. Körfer, B. Pölit, F. K. Schmiel, and P. Spiller (Düsseldorf/F.R.G.), Assessment of left ventricular function by a power index; an intraoperative study	423
Williamson, J. R., and K. Kobayashi (Philadelphia, Pennsylvania/U.S.A.), Use of the perfused rat heart to study cardiac metabolism: retrospective and prospective views.	283

Editorial

Glitsch, H. G. (Bochum/F.R.G.), Inhibition of the Na pump – a mechanism in the genesis of cardiac arrhythmias.	611
Reiter, M., W. Vierling, and K. Seibel (Munich/F.R.G.), Where is the origin of the activator calcium in cardiac ventricular contraction?	1

Announcements	124, 610
Erratum	698
Authors' Index to Vol. 79 (1984)	699
Subject Index to Vol. 79 (1984)	702

Supplement appeared in 1984

Cardiac Glycoside Receptors and Positive Inotropy. Evidence for more than one receptors? Erland Erdmann (ed.), Symposium, Munich, October 26–29, 1983 (CATALOGUE SEP.)	
---	--

The very latest



in heart research

H. M. PIPER
and **P. G. SPIECKERMANN**, Göttingen (eds.)

Adult Heart Muscle Cells

Isolation, Properties and Applications

1985. 168 pages. 63 figures. 5 tables.

Supplement 1 to BASIC RESEARCH IN CARDIOLOGY,
Vol. 80/1985; subscribers to BRC receive this book free of charge in
connection with their subscription.

Cloth DM 58,-, US \$ 24.00

ISBN 3-7985-0651-5 (Steinkopff)

ISBN 0-387-91258-4 (Springer-Verlag New York)

This volume makes available the contributions to a recent conference which was the first to discuss the use of isolated adult heart muscle cells as a new cardiological research tool.

Current studies on the difficult techniques of preparing Ca^{2+} -tolerant myocytes and their culture are presented. These original contributions look at this new myocyte model from ultrastructural, metabolic, and electrophysiological aspects. Summaries of the informal oral discussions reflect individual opinions and encourage new ideas. The possibility of the system being applied to industrial drug screening following further development is discussed. Both those acquainted with this new technique and those looking for basic and comprehensive information on the adult myocyte model will find this volume useful.

Distribution in US and Canada through Springer-Verlag, 175 Fifth Avenue, New York, NY 10010; for other countries through your bookseller or directly from Dr. Dietrich Steinkopff Verlag, P. O. Box 11 1008, 6100 Darmstadt/FRG.



Steinkopff Verlag Darmstadt
Springer-Verlag New York



